

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
5 August 2004 (05.08.2004)

PCT

(10) International Publication Number  
**WO 2004/064764 A3**

- (51) International Patent Classification<sup>7</sup>: **C07D 211/06**, 401/04, A61K 31/44, 31/445
- (21) International Application Number: **PCT/US2004/000175**
- (22) International Filing Date: 6 January 2004 (06.01.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
10/345,063 14 January 2003 (14.01.2003) US
- (71) Applicant (for all designated States except US): **SYNAPTIC PHARMACEUTICAL CORPORATION [US/US]**; 215 College Road, Paramus, NJ 07652 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **MARZABADI, Mohammad, R. [US/US]**; 153 Woodland Avenue, Ridgewood, NJ 07450 (US). **WETZEL, John, M. [US/US]**; 16-08 Well Drive, Fairlawn, NJ 07410 (US). **CHEN, Chien-An [US/US]**; 49-02 196th Place, Fresh Meadows, NY 11365 (US). **JIANG, Yu [US/US]**; 179 Manhattan Avenue, Apt. 7B, Jersey City, NJ 07370 (US). **LU, Kai [US/US]**; 67A Glenwood Avenue, Elmwood Park, NJ 07407 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report
- (88) Date of publication of the International search report:  
13 January 2005
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **SUBSTITUTED ALKYL AMIDO PIPERIDINES**

(57) Abstract: This invention is directed to compounds which are selective antagonists for melanin concentrating hormone-1 (MCH1) receptors. The invention provides a pharmaceutical composition comprising a therapeutically effective amount of the compound of the invention and a pharmaceutically acceptable carrier. This invention provides a pharmaceutical composition made by combining a therapeutically effective amount of the compound of this invention and a pharmaceutically acceptable carrier. This invention further provides a process for making a pharmaceutical composition comprising combining a therapeutically effective amount of the compound of the invention and a pharmaceutically acceptable carrier. This invention also provides a method of reducing the body mass of a subject which comprises administering to the subject an amount of a compound of the invention effective to reduce the body mass of the subject. This invention further provides a method of treating a subject suffering from depression and/or anxiety which comprises administering to the subject an amount of a compound of the invention effective to treat the subject's depression and/or anxiety.

WO 2004/064764 A3

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/00175

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C07D 211/06, 401/04; A61K 31/44, 31/445

US CL : 546/193, 229; 514/ 318, 331

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 546/193, 229; 514/ 318, 331

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
CAS Computer Search

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	WO 03/004027 A1 (SYNAPTIC PHARMACEUTICAL CORPORATION) 16 January 2003 (16.01.2003) see the entire document.	1-38

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

<p>* Special categories of cited documents:</p>	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"B" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

24 March 2004 (24.03.2004)

Date of mailing of the international search report

27 OCT 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Valerie Bell-Harris  
Zaina Northington Davis

Telephone No. (571) 272-1600